Offsets in Defense Trade
Tenth Study December 2005

By
The U.S. Department of Commerce
Bureau of Industry and Security

[The following material is extracted from the tenth annual report released December 2005. Some of the footnotes and tables have been omitted from this excerpt; however, the footnotes and table numbers remain the same as in the original document. The complete report is available at the following web site: http://www.bis.doc.gov/DefenseIndusttrialBasePrograms/OSIES/offsets/default.htm.]

Introduction

This is the tenth annual report on the impact of offsets in defense trade prepared by the U.S. Department of Commerce's Bureau of Industry and Security (BIS), Office of Strategic Industries and Economic Security pursuant to Section 309 of the *Defense Production Act of 1950*[3], as amended (DPA). The report analyzes the impact of offsets on the defense preparedness, industrial competitiveness, employment, and trade of the United States.

Offsets in defense trade are industrial compensation required by a foreign government as a condition of purchase of U.S. defense articles and services. This mandatory compensation can take many forms; it can be directly related to the purchased weapon system and related services, or it can involve activities or goods unrelated to the weapon system. The compensation can be further classified as a Subcontract, Purchase, Co-production, Technology Transfer, Licensed Production, Credit Transfer, Overseas Investment, or Training.

Some have raised concerns about the effects of offsets on the U.S. industrial base, since most offset arrangements involve purchasing, subcontracting, and co-production opportunities for U.S. competitors, as well as transferring technology and know-how. The official U.S.government policy on offsets in defense trade states that the government considers offsets to be "economically inefficient and trade distorting," and forbids government agencies from helping U.S. contractors to fulfill their offset obligations.[4] U.S. prime contractors generally see offsets as a reality of the marketplace for companies competing for international defense sales.

In order to assess the impact of offsets in defense trade, BIS obtained data from U.S. defense firms involved in defense exports and offsets. These firms report their offset activities to BIS annually. This report covers offset agreements entered into and the offset transactions carried out to fulfill these offset obligations from 1993 through 2004. It also reports on the progress of the Interagency Team on Offsets in Defense Trade, which is chartered to consult with foreign nations on limiting the adverse effects of offsets in defense procurement.

Legislation and Regulations

In 1984, the Congress enacted amendments to the *Defense Production Act* (DPA), which included the addition of Section 309 addressing offsets in defense trade.[8] Section 309 requires the President to submit an annual report on the impact of offsets on the U.S. defense industrial base to the

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3 Codified at 50 U.S.C. app. § 2099 (2000).

4 Defense Production Act Amendments of 1992 (Pub. L. 102-558, TitleI Part C, § 123).

8 See Pub. L. 98-265, April 17, 1984, 98 Stat. 149.

Congress then-Committee on Banking, Finance, and Urban Affairs of the House of Representatives[9] and the Committee on Banking, Housing, and Urban Affairs of the Senate.

Section 309 authorizes the Secretary of Commerce to develop and administer the regulations necessary to collect offset data from U.S. defense exporters. The Secretary of Commerce delegated this authority to the Bureau of Industry and Security (BIS). The BIS published its first offset regulations in the *Federal Register* in 1994.[11]

Every year, U.S. companies report offset agreement and transaction data for the previous calendar year to BIS. The 1992 amendments to Section 309 of the DPA reduced the offset agreement reporting threshold from $50 million to $5 million for U.S. companies entering into foreign defense sales contracts subject to offset agreements. U.S. companies are also required to report all offset transactions for which they receive offset credits of $250,000 or more.

U.S. Government Policy

The U.S. government policy on offsets in defense trade was developed by an interagency offset team. On April 16, 1990, President George H.W. Bush announced a policy on offsets in military exports.[12] In 1992, Congress passed the following provision, which closely reflects the policy announced by the President:[13]

(a) In General recognizing that certain offsets for military exports are economically inefficient and market distorting, and mindful of the need to minimize the adverse effects of offsets in military exports while ensuring that the ability of United States firms to compete for military export sales is not undermined, it is the policy of the Congress that:

(1) No agency of the United States Government shall encourage, enter directly into, or commit United States firms to any offset arrangement in connection with the sale of defense goods or services to foreign governments;

(2) United States Government funds shall not be used to finance offsets in security assistance transactions, except in accordance with policies and procedures that were in existence on March 1, 1992;

(3) Nothing in this section shall prevent agencies of the United States Government from fulfilling obligations incurred through international agreements entered into before March 1, 1992; and

(4) The decision whether to engage in offsets, and the responsibility for negotiating and implementing offset arrangements, resides with the companies involved.

(b) Presidential Approval of Exceptions, it is the policy of the Congress that the President may approve an exception to the policy stated in subsection after receiving the recommendation of the National Security Council.

(c) Consultation, it is the policy of the Congress that the President shall designate the Secretary of Defense to lead, in coordination with the Secretary of State, an interagency team to consult with foreign nations on limiting the adverse effects of offsets in defense procurement. The

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9 Section 309 of the DPA was amended in 2001 to reflect the change in the name of the House committee to the "Committee on Financial Services of the House of Representatives." See 50 U.S.C. app. § 2099(a)(1).

11 See 59 Fed. Reg. 61796, Dec. 2, 1994, codified at 15 C.F.R. § 701.

12 See April 16, 1990 statement by Press Secretary Fitzwater on offsets in military exports.

13 Congress incorporated this policy statement into law with the Defense Production Act Amendments of 1992 (Pub. L. 102-558, Title I, Part C, § 123, 106 Stat. 4198.)

President shall transmit an annual report on the results of these consultations to the Congress as part of the report required under section 309(a) of the DPA.

Provisions in the *Defense Offsets Disclosure Act of 1999*[14] supplement the offset policy:

(1) A fair business environment is necessary to advance international trade, economic stability, and development worldwide; this is beneficial for American workers and businesses, and is in the United States' national interest.

(2) In some cases, mandated offset requirements can cause economic distortions in international defense trade and undermine fairness and competitiveness, and may cause particular harm to small businesses and medium-sized businesses.

(3) The use of offsets may lead to increasing dependence on foreign suppliers for the production of United States weapons systems.

(4) The offset demands required by some purchasing countries, including some close allies of the United States, equal or exceed the value of the base contract they are intended to offset, mitigating much of the potential economic benefit of the exports.

(5) Offset demands often unduly distort the prices of defense contracts.

(6) In some cases, United States contractors are required to provide indirect offsets which can negatively impact non-defense industrial sectors.

(7) Unilateral efforts by the United States to prohibit offsets may be impractical in the current era of globalization and would severely hinder the competitiveness of the United States defense industry in the global market.

The *Defense Offsets Disclosure Act of 1999* continues with the following declaration of policy:

> It is the policy of the United States to monitor the use of offsets in international defense trade, to promote fairness in such trade, and to ensure that foreign participation in the production of United States weapons systems does not harm the economy of the United States.

Table 2-1 provides a summary of all offset agreement and transaction activity for the twelve-year period from 1993 through 2004.

In 2004, the total value of offset agreements was $4.3 billion. These agreements were made in conjunction with U.S. defense weapon exports totaling $4.9 billion in 2004. Fourteen prime contractors reported that they entered into 40 offset agreements with 18 countries that year. The average offset percentage (offset value ÷ value of exported system) for 2004 was 87.9 percent, down from 124.9 percent in 2003; despite this decline, 2004 had the second highest percent recorded over the twelve-year period. The average offset agreement for the period was worth 71.4 percent of the value of the weapon system exported. The upward trend in offset requirements is also evident in Table 2-1. For the time period of 1993-1998, offset 2-1 agreements totaled 54.7 percent of the value of the weapon system exported; for the time period of 1999-2004, that percentage had grown to 87.9 percent. Offset transactions rose in 2004 to a total value higher than that of any other year reported. The transactions in 2004 totaled $4.9 billion, up from $3.6 billion in 2003. Prime contractors carried out 706 transactions in 2004 with 33 countries. On average, prime contractors received slightly more than the value of the transactions as credit toward their offset obligation. However, multipliers have dropped steadily over the last five-year period. The average multiplier in 2004 was 1.087, one of the lowest multipliers for the twelve-year period of 1993-2004; the highest multiplier, 1.363, came in 1999. The average multiplier granted for the twelve-year period was 1.185. Multipliers are granted on a decreasing level of transactions over time.

Table 2-1: General Summary of Offset Activity, 1993-2004

Year	Export	Offset Value	Percent Value	Companies Offset	Agreements Agreements	Countries
1993	$13,935.0	$4,784.4	34.%	17	28	16
1994	$4,792.4	$2,048.7	42.7%	18	49	20
1995	$7,529.9	$6,102.6	81.0%	20	47	18
1996	$3,119.7	$2,431.6	77.9%	16	53	19
1997	$5,925.5	$3,825.5	64.6%	15	60	20
1998	$3,029.2	$1,768.2	58.4%	12	41	17
1999	$5,656.6	$3,456.9	61.1%	10	45	11
2000	$6,576.2	$5,704.8	86.7%	10	43	16
2001	$7,017.3	$5,460.9	77.8%	11	34	13
2002	$7,406.2	$6,094.8	82.3%	12	41	17
2003	$7,293.1	$9,110.4	124.9%	11	32	13
2004	$4,927.5	$4,329.7	87.9%	14	40	18
12 Years	**$77,208.6**	**$55,118.5**	**71.4%**	**42**	**513**	**41**

Offset Transactions

Year	Actual Value	Credit Value	Multiplier	Offset Fulfillers	Transactions	Countries
1993	$1,897.9	$2,213.6	1.166	43	444	27
1994	$1,934.9	$2,206.1	1.140	38	566	26
1995	$2,890.5	$3,592.6	1.243	57	711	26
1996	$2,875.8	$3,098.0	1.077	54	634	26
1997	$2,720.6	$3,272.3	1.203	51	578	26
1998	$2,312.2	$2,623.2	1.135	50	582	29
1999	$2,059.7	$2,808.3	1.363	41	513	25
2000	$2,208.2	$2,846.4	1.289	40	627	24
2001	$2,555.8	$3,274.4	1.281	53	617	25
2002	$2,616.0	$3,284.5	1.256	50	729	26
2003	$3,565.5	$4,010.7	1.125	56	689	31
2004	$4,933.1	$5,364.3	1.087	62	706	33
Total	**$32,570.1**	**$38,594.5**	**1.185**	**275**	**7,396**	**44**

Source: BIS Offset Database

Note: Due to rouding, totals may not ad up exactly.

*Multipliers are used only in a small percentage of the total number of transactions.

Types of Offset Transactions

Table 2-2 presents offset transaction data by offset type (direct, indirect, or unspecified) and the percent distribution for each year from 1993 to 2004. Table 2-2 also shows the total actual and credit values of the transactions for each year.

The actual value of transactions for 2004 was $4.9 billion, more than any other year during the 1993-2004 period. This is due to the high level of export sales and related offset agreements since 2000. Transactions lag a few years behind the offset agreements that they fulfill.

In 2004, the percentage of transaction value attributed to indirect offset transactions fell to 46.6 percent from a high of 68.6; the second lowest level in the period. Direct transactions, however, increased from 31.2 percent of all transactions in 2003 to 53.4 percent in 2004. This percentage was the second highest for transactions classified as direct; 1998 had the highest percentage with 63.6 percent of transactions being the direct type. For the

Direct offset transactions are those that are directly related to the weapon system that is exported. Indirect transactions are not related to the exported weapon system and are usually commercial in nature. A transaction is considered unspecified when there is not enough information available to determine whether it is direct or indirect.

Table 2-2: Offset Transactions by Type, 1993-2004
($ in millions)

		Credit Value			% Distribution		
Year	**Total**	**Direct**	**Indirect**	**Unspecified**	**Direct**	**Indirect**	**Unspecified**
1993	$1,897.9	$583.6	$1,250.5	$63.9	30.7%	65.9%	3.4%
1994	$1,934.9	$599.8	$1230.8	$104.3	31.0%	63.6%	5.4%
1995	$2,890.5	$1,108.8	$1,756.8	$24.9	38.4%	60.8%	0.9%
1996	$2,875.8	$1,248.8	$1,625.6	$1.4	43.4%	56.5%	0.0%
1997	$2,720.6	$1,041.7	$1,657.5	$21.4	38.3%	60.9%	0.8%
1998	$2,312.2	$1,469.7	$842.4	$0.1	63.6%	36.4%	0.0%
1999	$2,059.7	$685.2	$1,363.1	$11.4	33.3%	66.2%	0.6%
2000	$2,208.2	$785.6	$1,411.9	$10.6	35.6%	63.9%	0.5%
2001	$2,555.8	$940.9	$1,614.9	NR	36.8%	63.2%	NR
2002	$2,616.0	$941.8	$1,673.0	$1.3	36.0%	63.9%	0.1%
2003	$3,565.5	$1,113.0	$2,447.0	$5.6	31.2%	68.6%	0.2%
2004	$4,933.1	$2,635.2	$2,297.4	$0.5	53.4%	46.6%	0.0%
Total	**$32,570.1**	**$13,153.8**	**$19,170.9**	**$245.4**	**40.4%**	**58.9%**	**0.8%**
		Credit Value			**% Distribution**		
1993	$2,213.6	$684.3	$1,460.6	$68.7	30.9%	66.0%	3.1%
1994	$2,206.1	$774.1	$1,323.2	#108.8	35.1%	60.0%	4.9%
1995	$3,592.6	$1,302.6	$2,250.7	$39.3	36.3%	62.6%	1.1%
1996	$3,098.0	$1,182.0	$1,880.0	$36.0	38.2%	60.7%	1.2%
1997	$3,272.3	$1,183.5	$2,039.1	$49.7	36.2%	62.3%	1.5%
1998	$2,623.2	$1,629.4	$991.3	$2.5	62.1%	37.8%	0.1%
1999	$2,808.3	$1,119.4	$1,618.7	$70.3	39.9%	57.6%	2.5%
2000	$2,846.4	$1,146.4	$1,689.5	$10.6	40.3%	59.4%	0.4%
2001	$3,274.4	$1,292.3	$1,982.1	NR	39.5%	60.5%	NR
2002	$3,284.5	$1,111.2	$2,171.9	$1.3	33.8%	66.1%	0.0%
2003	$4,010.7	$1,215.5	$2,783.2	$12.0	30.3%	69.4%	0.3%
2004	$5,364.3	$2,764.3	$2,599.5	$0.5	51.5%	48.5%	0.0%
Total	**$38,594.5**	**$15,404.9**	**$22,789.8**	**$399.8**	**39.9%**	**59.0%**	**1.0%**

		Multiplier*			# of Transactions			
Year	**Total**	**Direct**	**Indirect**	**Unspecified**	**Total**	**Direct**	**Indirect**	**Unspecified**
1993	1.166	1.173	1.168	1.076	444	132	308	4
1994	1.140	1.291	1.075	1.043	566	157	404	5
1995	1.243	1.175	1.281	1.579	711	204	505	2
1996	1.077	0.947	1.156	25.714	634	228	404	2
1997	1.203	1.136	1.230	2.326	578	202	372	4
1998	1.135	1.109	1.177	19.538	582	241	340	1
1999	1.363	1.634	1.187	6.152	513	203	305	5
2000	1.289	1.459	1.197	1.000	627	216	409	2
2001	1.281	1.374	1.227	NR	617	224	393	NR
2002	1.256	1.180	1.298	1.000	729	194	534	1
2003	1.125	1.092	1.137	2.151	689	179	506	4
2004	1.087	1.049	1.131	1.000	706	375	330	1
Total	**1.185**	**1.171**	**1.189**	**1.629**	**7,396**	**2,555**	**4,810**	**6**

Source: BIS Offsets Database

NR = Non Reported

Note: Due to runding totals may not add up precisely.

*Multipliers are used only in a small percentage of the total number of transaceions.

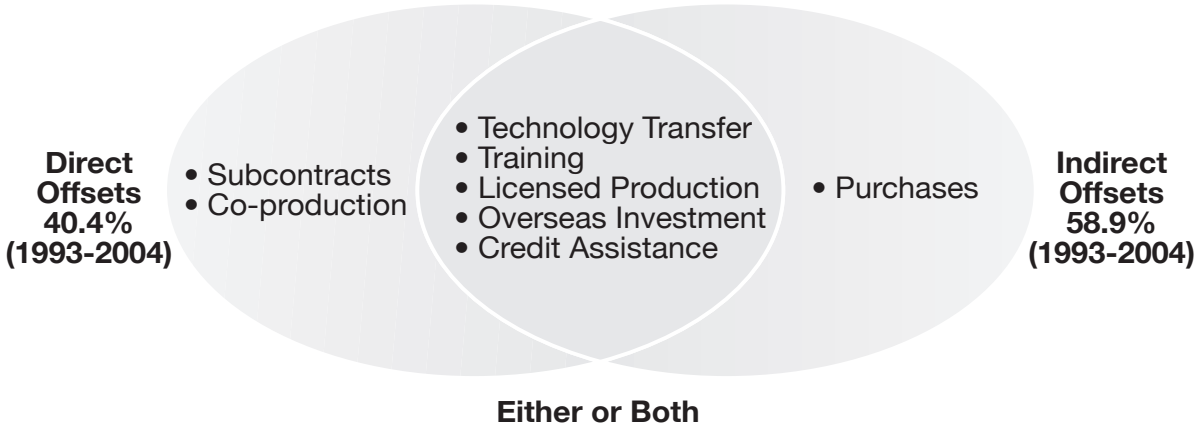
twelve-year period, 40.4 percent of offset transactions by value were direct (up from 38.1 percent for 1993-2003), and 58.9 percent were indirect (down from 61.1 percent in 1993-2003).

The credit value is sometimes more than the actual value assigned to transactions; some foreign governments give greater credit as an incentive for certain kinds of offset transactions. This incentive, called a multiplier, varies by country and by the kind of transaction — usually indirect offset transactions.

The multiplier, also shown in Table 2-2, is the percentage difference between the actual value and the credit value. This multiplier means that, for the database as a whole, the total credit value of the transactions is 18.5 percent more than the actual value; this is a decrease from 1.211 for 1993-2003. In 2004, the multiplier dropped to 1.087, and has dropped steadily since the 1999 level of 1.363. The great majority of offset transactions neither include multipliers nor have multipliers that provide less than the credit value of the transaction.

Offset Transaction Categories

In addition to classifying offset transactions by type (direct or indirect), offset transactions are identified by various categories, which more particularly describe the nature of the arrangement or exchange. These categories include purchases, subcontracts, technology transfers, credit assistance, training, overseas investment, co-production, licensed production, and miscellaneous. The diagram below shows that each category is considered direct or indirect, or could be either one (e.g., technology transfer, training, etc.). Definitions for the categories begin below; Appendix I contains additional relevant offset definitions as well as illustrative examples.



Purchases result in overseas production of goods or services usually for export to the United States. Purchases are always classified as indirect offsets to distinguish them from subcontracts, because the purchases are of items unrelated to the exported defense system. The U.S. exporter may make the purchase, or they can also involve brokering and marketing assistance that result in purchases by a third party. For 1993-2004, purchases represented 37 percent of the actual value of all offset transactions, larger than any other category. They made up 62.9 percent of the value of indirect offsets. Aerospace-related transactions made up almost 42 percent of the value of purchases during 1993-2004.

Subcontracts result in overseas production of goods or services for use in the production or operation of a U.S. exported defense system subject to an offset agreement. Subcontracts are always classified as direct offsets. During 1993-2004, subcontracts made up one-quarter of the 2-6 actual

value of all offset transactions, and 62 percent of the value of all direct offsets. Almost 60 percent of the value of subcontracts was aerospace-related.

Technology transfer includes research and development conducted abroad, exchange programs for personnel, data exchanges, integration of machinery and equipment into a recipient's production facility, technical assistance, education and training, manufacturing know-how, and licensing and patent sharing. Technology transfer is normally accomplished under a commercial arrangement between the U.S. prime contractor and a foreign company. A major subcontractor may also accomplish the technology transfer on behalf of the U.S. prime contractor. For 1993-2004, technology transfer totaled just over $4.7 billion, up from $3.7 billion for 1993-2003. During the reporting period, 33.8 percent of the value of technology transfers was classified as direct offsets and 63.4 percent was indirect offsets; the balance was unspecified. Technology transfers accounted for approximately 14.5 percent of the actual value of all offset transactions.

Co-production is overseas production based upon a government-to-government agreement that permits a foreign government or producer to acquire the technical information to manufacture all or part of a U.S.-origin defense system. Co-production is always classified as a direct offset. It includes government-to-government licensed production, but excludes licensed production based upon direct commercial arrangements by U.S. manufacturers. During 1993-2004, 96 percent of the value of Co-production reported was aerospace-related.

Co-production accounted for 6.6 percent of the value of offset transactions for 1993-2004, up from 2.6 percent for 1993-2003. Past co-production transactions have involved constructing major production facilities in foreign countries (primarily at the expense of the foreign government) for the assembly of entire defense systems, such as aircraft, missiles, or ground systems. Co-production arrangements of this kind generally impose a high cost on the foreign government, including up front construction and tooling costs and increased unit costs for limited production runs.[15] Some countries negotiate with prime contractors for production or assembly contracts related to future sales to third countries of the weapon system or system components.

Credit assistance includes direct loans, brokered loans, loan guarantees, assistance in achieving favorable payment terms, credit extensions, and lower interest rates. Credit assistance transactions accounted for 4.4 percent of the actual value of all transactions for 1993-2004. Credit assistance is nearly always classified as an indirect offset transaction but can be either direct or indirect. Indirect transactions made up 99.5 percent of the actual value of credit assistance for the period.

Overseas investment includes capital invested to establish or expand a subsidiary or joint venture in the foreign country as well as investments in third-party facilities; the latter received the highest multipliers. Overseas investments accounted for just 2.6 percent of the actual value of all offset transactions; 58.1 percent of the value of overseas investment transactions was classified as indirect and 32.8 percent as direct.

Training transactions relate to the production, maintenance, or actual use of the exported defense system or a component thereof. Training may be required in areas such as computers, foreign language skills, engineering capabilities, or management. This category can be classified as either direct or indirect offset transactions; during the reporting period, direct offset transactions made up 60 percent of the value of training transactions; 39.8 percent was indirect. The remaining 1.2 percent

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15 Primary examples include an Egyptian co-production facility which, since its 1988 inception has only contracted enough orders to build half of what the government originall planned and a Japanese co-productionprogram that cost the government nearly 2 times more per unit than an off-the-shelf urchase. See *Military Aid to Egypt: Tank Co-production Raised Costs and May Not Meet Many Program Goals*, U.S. General Accounting Office, GAO/NSIAD-93-2003, and *U.S. Military Aircraft Co-production with Japan*, U.S. General Accounting Office, GAO/T-NSAID-89-6.

was unspecified direct or indirect. Training accounted for only 2.5 percent of the total value of offset transactions between 1993 and 2004.

Licensed production is overseas production of a U.S.-origin defense article. Licensed production differs from co-production in that it is based on commercial arrangements between a U.S. manufacturer and a foreign entity as opposed to a government-to-government agreement. In addition, licensed production virtually always involves a part or component for a defense system, rather than a complete defense system. These transactions can be either direct or indirect. Licensed production is the smallest among the offset categories, accounting for only 0.4 percent of the total value of offset transactions; 75.2 percent of the licensed production transactions (by actual value) were directly related to the weapon systems sold. Table 2-3 presents a summary of offset transactions by category and type for the twelve-year reporting period (1993-2004).

Industry Classification — Standard Industrial Classification Codes

Table 2-4 shows the offset transactions classified by major industrial sector for the twelve year period, 1993-2004. Each industry sector is defined using the Standard Industrial Classification (SIC) system. Forty-one SIC categories are listed which represent a wide cross section of the U.S. defense industrial base.

Of the various sectors, transportation equipment (SIC 37) accounted for more than half — 52.4 percent from 1993-2004, up from 51.1 percent for 1993-2003 — of the actual value of all transactions. Transportation Equipment was 60.6 percent of the value of direct offset transactions, 46.4 percent of indirect offset transactions, and 84.7 percent of unspecified offset transactions. Transactions in this sector were composed mostly of aerospace products, including aircraft parts and components, engines and parts, hydraulic subsystems, and guided missiles and components.

Other major industry groups include electronic/electrical equipment (SIC 36) with 14.6 percent of the actual value of all transactions. SIC 36 includes products such as radar, communications equipment, and electronic components, as well as completed avionics equipment and material inputs for avionics such as circuit boards. Combined, transactions falling in SIC 37 and SIC 36 constitute 67 percent of the total value of offset transactions for the twelve-year period.

Industrial machinery (SIC 35) accounted for 4.8 percent of the actual value of transactions; this industry group includes capital equipment used in the production of both defense and non-defense items. Technical services and consulting (SIC 87) made up 4.6 percent of the value of all transactions, while transactions in business services (SIC 73) made up 4.2 percent of the value of offset transactions. These five industry groups comprised 80.6 percent of the total value of all transactions reported to date.

Table 2-3: Offset Transactions by Category and Type, 1993-2004

Transaction Category	Actual Values in dollar millions				Percent by Column Total			
	Total	Direct	Indirect	Unspecified	Total	Direct	Indirect	Unspecified
Purchase	$12,055.1		$12,055.1		37.0%		62.9%	
Subcontract	$8,156.7	$8,156.7			25.0%	62.0%		
Technology Transfer	$4,723.3	$1,597.1	$2,994.0	$132.2	14.5%	12.1%	15.6%	53.9%
Miscellaneous	$2,257.1	$375.5	$1,871.8	$9.8	6.9%	2.9%	9.8%	4.0%
Co-production	$2,148.5	$2,148.5			6.6%	16.3%		
Credit Transfer	$1,428.7	$7.2	$1,421.5		4.4%	0.1%	7.4%	
Overseas Investment	$856.1	$280.9	$497.7	$77.5	2.6%	2.1%	2.6%	31.6%
Training	$805.9	$483.6	$320.4	$1.9	2.5%	3.7%	1.7%	0.8%
Licensed Production	$138.8	$104.4	$10.4	$24.0	0.4%	0.8%	0.1%	9.8%
Total	**$32,570.1**	**$13,153.8**	**$19,170.9**	**$245.4**	**100.0%**	**100.0%**	**100.0%**	**100.0%**

Transaction Category	Credit Values in dollar millions				Percent by Column Total			
	Total	Direct	Indirect	Unspecified	Total	Direct	Indirect	Unspecified
Purchase	$13,175.2		$13,175.2		34.1%	0.0%	57.8%	
Subcontract	$9,054.8	$9,054.8			23.5%	58.8%		
Technology Transfer	$5,890.1	$1,864.8	$3,870.7	$154.6	15.3%	12.1%	17.0%	38.7%
Miscellaneous	$3,334.2	$885.5	$2,376.3	$72.4	8.6%	5.7%	10.4%	18.1%
Co-production	$2,100.7	$2,100.7			5.4%	13.6%		
Credit Transfer	$1,615.0	$72.7	$1,542.4		4.2%	0.5%	6.8%	
Overseas Investment	$1,913.0	$568.6	$1,216.3	$128.2	5.0%	3.7%	5.3%	32.1%
Training	$1,325.9	$736.5	$576.0	$13.4	3.4%	4.8%	2.5%	3.3%
Licensed Production	$185.5	$121.4	$32.9	$31.2	0.5%	0.8%	0.1%	7.8%
Total	**$38,594.5**	**$15,404.9**	**$22,789.8**	**$399.8**	**100.0%**	**100.0%**	**100.0%**	**100.0%**

Transaction Category	Multiplier*				Number of Transactions			
	Total	Direct	Indirect	Unspecified	Total	Direct	Indirect	Unspecified
Purchase	1.093		1.093		3652		3652	
Subcontract	1.110	1.110			1680	1680		
Technology Transfer	1.247	1.168	1.293	1.169	821	346	461	14
Miscellaneous	1.477	2.358	1.270	7.385	488	101	382	5
Co-production	0.978	0.978			242	242		
Credit Transfer	1.130	10.091	1.085		109	8	101	
Overseas Investment	2.235	2.024	2.444	1.655	113	25	83	5
Training	1.645	1.523	1.798	7.178	258	126	127	5
Licensed Production	1.336	1.162	3.171	1.300	33	27	4	2
Total	**1.185**	**1.171**	**1.189**	**1.629**	**7396**	**2555**	**4810**	**31**

Source: BIS Offsets Database

NR = Non Reported

Note: Due to rounding totals may not add up precisely.

*Multipliers are used only in a small percentage of the total number of transactions.

Table 2-4: Offset Transactions by Major Industrial Sector and Offset Type, 1993-2004 (in dollars millions)

	2-Digit SIC Code and Description	Total	Direct	Indirect	Unspecified	Total	Direct	Indirect	Unspecified
7	Agriculture	$53.6		$53.6		0.2%		0.3%	
10	Metal Mining	$3.2		$3.2		0.0%		0.0%	
13	Crude Petrol. & Natural Gas	$19.6		$19.6		0.1%		0.1%	
15	Building Construction	$26.6	$11.6	$15.1		0.1%	0.0%	0.1%	
16	Heavy Construction	$1.5	$1.2	$0.3		0.0%	0.0%	0.0%	
17	Construction - Specific Trades	$21.2	$1.0	$20.2		0.1%	0.0%	0.1%	
20	Food and Kindred products	$15.5		$15.5		0.0%		0.1%	
22	Textile Mill Products	$6.4		$6.4		0.0%		0.0%	
23	Apparel and Other Fin Products	$3.8		$3.8		0.0%		0.0%	
24	Lumber and Wood Products	$0.3		$0.3		0.0%		0.0%	
25	Furniture and Fixtures	$0.3		$0.3		0.0%		0.0%	
26	Paper Mills and Allied Products	$21.9	$0.9	$21.1		0.1%	0.0%	0.1%	
27	Printing and Publishing	$34.0	$23.9	$10.1		0.1%	0.2%	0.1%	
28	Chemicals and Alllied Products	$215.4	$14.7	$200.7		0.7%	0.1%	1.0%	
29	Petroleum Refining	$3.2		$3.2		0.0%		0.0%	
30	Rubber and Miscellaneous Plastic Products	$6.6	$0.7	$5.9		0.0%	0.0%	0.0%	
32	Cut Stone and Stone Products	$12.9		$12.9		0.0%		0.1%	
33	Primary Metal Industries	$259.9	$9.4	$250.5		0.8%	0.1%	1.3%	
34	Fabricated Metal Products	$599.2	$148.5	$450.7		1.8%	1.1%	2.4%	
35	Indl Machinery, Exc Elec	$1,555.3	$151.9	$1,402.9	$0.5	4.8%	1.2%	7.3%	0.2%
36	Electronic and Electrical Equipment	$4,759.1	$1,977.6	$2,777.3	$4.2	14.6%	15.0%	14.5%	1.7%
37	Transportation Equipment	$17,075.0	$7,977.5	$8,889.7	$207.8	52.4%	60.6%	46.4%	84.7%
38	Measuring and Analyzing Instruments	$1,394.0	$737.9	$656.1		4.3%	5.6%	3.4%	
39	Miscellaneous Manufacturing Industries	$5.8	$0.6	$5.1		0.0%	0.0%	0.0%	
42	Motor Freight and Warehousing	$1.5		$1.5		0.0%		0.0%	
44	Water Transportation	$60.6		$60.6		0.2%		0.3%	
45	Transportation By Air	$69.7	$54.7	$15.0		0.2%	0.4%	0.1%	
47	Transportation Services	$3.5	$0.0	$3.4		0.0%	0.0%	0.0%	
48	Communications	$179.0	$104.4	$74.5		0.5%	0.8%	0.4%	
49	Electric, Gas, and San Service	$2.5		$2.5		0.0%		0.0%	
61	Non-Deposit Credit Inst	$676.3	$10.2	666.1		2.1%	0.1%	3.5%	
62	Security and Comm Brokers	$119.3	#2.1	$117.2		0.4%	0.0%	0.6%	
67	Holding and Other Invest Off	$664.2	$205.5	$435.2	$23.6	2.0%	1.6%	2.3%	9.6%
73	Business Services	$1,375.2	$320.8	$1,046.7	$7.7	4.2%	2.4%	5.5%	3.1%
76	Miscellaneous Repair Shops	$8.5	$2.4	$6.1		0.0%	0.0%	0.0%	
80	Health Services	$0.0		$0.0		0.0%		0.0%	
81	Legal Services	$0.1		$0.1		0.0%		0.0%	
82	Educational Services	$651.7	$273.1	$378.6		2.0%	2.1%	2.0%	
87	Technical Services and Cons	$1,501.3	$482.6	$1,017.0	$1.7	4.6%	3.7%	5.3%	0.7%
89	Miscellaneous Services	$79.1	$39.6	$39.5		0.2%	0.3%	0.2%	
99	Undetermined	$1,083.6	$601.0	$482.6		3.3%	4.6%	2.5%	
	Total	**$32,570.1**	**$13,153.8**	**$19,170.9**	**$245.4**	**100.0%**	**100.0%**	**100.0%**	**100.0%**

Source: BIS Offsets Database
NR = Non Reported
Note: Due to rounding totals may not add up precisely.

Countries and Regions

Table 2-5 shows the country offset percentage calculated from the data reported by U.S prime contractors as well as the offset percentages highlighted in each country's official offset policy. The first column, percent offsets, is an average percentage derived from the BIS offsets database for the period covering 1993 to 2004, which is calculated by dividing the offset value by the export value. These twelve-year average percentages tend to be lower than the official offset policy percentage. Offset demands have increased significantly over time, so the twelve-year average percentage lags behind the actual current offset percentage required by the foreign government.

Table 2-5: Offset Percentages by Country and Region 1993-2004
From BIS Offsets Database and Country Policies

Europe

Country	Percent Offsets	Country Percent
Austria	174.2%	200%
Belgium	80.1%	Case-by-Case
Czech Republic	W	100%
EPG	27.8%	NA
Denmark	100.0%	100%
Finland	100.0%	100%
France	84.6%	100%
Germany	100.0%	Up to 100%
Greece	113.4%	80% to 300%
Italy	93.8%	Min. 70%
Lithuania	W	100%
NATO	55.8%	NA
Netherlands	119.3%	Up to 150%
Norway	104.8%	100%
Poland	W	100%
Portugal	27.9%	100%
Romania	W	80%
Slovenia	W	100%
Spain	88.5%	Up to 100%
Sweden	103.9%	100%
Switzerland	78.5%	100%
United Kingdom	84.6%	100%
Region Total	**89.3%**	

Middle East and Africa

Country	Percent Offsets	Country Prcent
Egypt	NR	Case-by-Case
Israel	48.6%	50%
Kuwait	31.4%	35%
Saudi Arabia	W	35%
South Africa	W	30%
Turkey	46.6%	Min. 50%
United Arab Emirates	56.1%	Min. 60%
Region Total	**55.7%**	

Asia

Country	Percent Offsets	Country Percent
Australia	45.8%	60%
Indonesia	NR	100%
Malaysia	37.3%	100%
New Zealand	W	30%
Phillipines	100.0%	80% - 100%
Singapore	W	Case-byCase
South Korea	61.9%	30%
Taiwan	20.0%	40%
Thailand	26.6%	50%
Region Total	**45.7%**	

North and South America

Country	Percent Offsets	Country Percent
Brazil	W	100%
Canada	96.9%	100%
Chile	W	100%
Regional Total	**99.0%**	

Source: BIS Offsets Database
NA = Not Applicable
NR = Non Reported
W = Withheld to protect company-proprietary information

The second column, Country, reflects current offset percentages as required by the government of each individual country. Most countries set a single target percentage offset value; however, a few countries vary the percentage depending on the significance of each individual offset agreement to the local economy. Some countries have formulas which place more emphasis on indirect offset agreements rather than direct, thereby reflecting a country's desire to develop civilian industry rather than the defense sector of the economy. Other countries demand almost entirely direct offsets, reflecting the desire to maintain and enhance their defense sector. Therefore, offset percentages and type depend on the importance of each contract with respect to the economic direction of any given country government.

Regional offset percentages are greater in Europe and North and South America, with demands of 89.3% and 99% respectively, followed by the Middle East and Africa with 55.7% and Asia with 45.7%.

Defense Preparedness

The revenue generated by export sales, and the exports themselves, are important to U.S. defense prime contractors and to U.S. foreign policy and economic interests. Exports of major defense systems help defray high overhead costs for the U.S. producer and help maintain production facilities and workforce expertise for current and future U.S. defense needs. The production capabilities and workforce are also available in case they are needed to respond to a national emergency. Exports also provide additional business to many U.S. subcontractors and lower-tier suppliers, promote interoperability of weapon systems between the United States and allied countries, and contribute positively to U.S. international trade account balances. Prime contractors believe that they must make their systems more attractive in the sales competition by adding offsets. In fact, nearly all governments other than the United States require offsets as a condition of sale.

When an offset package requires a high proportion of subcontracting, co-production, licensed production, or purchases, it can negate many of the economic and industrial base benefits accrued through the export sale. U.S. defense subcontractors and suppliers, and in some cases portions of the prime contractor's business, are displaced by exports that include subcontract, co-production, or licensed production offsets. Purchases, which are indirect offsets, can displace sales from the commercial manufacturing sectors of the U.S. economy. Almost 80 percent of offset transactions reported for the 1993-2004 period fell in the manufacturing sectors of the U.S. economy, eroding U.S. production and workforce capabilities and the balance of payments benefits of the export.

Previous studies and discussions indicate that U.S. prime contractors sometimes develop long-term supplier relationships with overseas subcontractors based on short-term offset requirements.[14] These new relationships, combined with mandatory offset requirements and obligations, can endanger future business opportunities for U.S. subcontractors and suppliers, with possible negative consequences for the domestic industrial base. Other kinds of offsets can increase research and development spending and capital investment in foreign countries for defense or non-defense industries and help create or enhance current and future competitors for U.S. subcontractors and suppliers, and in some cases prime contractors.

Employment

Given the variety of defense weapon systems sold and offset transactions carried out, and the limited data available, it is difficult to determine precisely the impact of offset agreements and transactions on employment in the U.S. defense sector. BIS has developed an estimate by using aerospace-related employment and value added data collected by the U.S. Department of Commerce

14 See GAO report on offset activities, "Defense Trade: U.S. Contractors Employ Diverse Activities to Meet Offset Obligations," December 1998 (GAO/NSIAD-99-35), pp.4-5

Bureau of the Census.[15] Since sales of aerospace weapon systems accounted for 86.1 percent of the value of defense exports connected with offset agreements during 2003, this method appears to provide a reliable estimate (2003 data is the most recent available for comparison from the Bureau of the Census). This method takes into account work-years maintained because of the export sales as well as the work-years lost through certain kinds of offset transactions carried out in fulfillment of offset agreements.

U.S. prime contractors reported about $7.3 billion in defense export contracts with offset agreements for 2003. According to the Census Bureau's *Annual Survey of Manufactures*, the value added per employee for the aerospace product and parts manufacturing industry in 2003 was $174,577. Dividing this figure into the 2003 defense export sales total results in a total of 41,776 work-years that were maintained by defense exports associated with offset agreements during 2003.[16]

For 2003, the $7.3 billion in defense export contracts had a related $9.1 billion in offset commitments. It takes on average almost seven years of offset transactions to fulfill an offset agreement. In order to more accurately assess the impact of offset transactions on work-years, BIS compared the export contract to the prime contractor's offset obligation contractually committed at the time of the sale.

Subcontracting, purchasing, co-production, and licensing offset transactions are most likely to shift production and sales from U.S. suppliers to overseas firms. Other categories of offset transactions (technology transfer, training, overseas investment, and marketing), in the short or long run, can shift sales from U.S. suppliers as well; however, their impact is more difficult to calculate. Therefore, BIS bases its estimate of employment impacts only on subcontracting, purchasing, co-production, and licensing offset transactions.

These conservative calculations are based on the assumption that the offset obligations entered into in 2003 are made up of nearly the same proportion of offset transaction categories as past offset obligations. Those categories which can be most directly related to employment — subcontracting, purchasing, co-production, and licensing — accounted for approximately 72 percent of the total value of offset obligations in 2003, or about $2.6 billion. Applying the same value added figure used above ($174,577) leads to the loss of 37,450 work-years associated with the offset agreements entered into in 2003.

Based on these calculations, it appears that 2003 defense export sales of $7.3 billion had a slight net positive effect on employment in the defense sector during that year (4,326 work years), although the net positive effect was diminished by the offset agreements. It should be noted that the 2003 analysis does not include the potential impacts of an additional $809.9 million of technology transfer, training, and overseas investment transactions. This compares to 2002 defense export sales of $7.4 billion and related work-years of 47,122, offsets of $6.1 billion and the loss of 25,450 work-years, for a net gain of 21,672 work-years.

Offset Agreements, 1993-2004

From 1993 to 2004, 42 prime contractors reported entering into 513 offset agreements valued at $55.1 billion. The agreements were signed in connection with defense weapon system exports totaling $77.2 billion to 41 different countries. The value of the offset agreements represented 71.4

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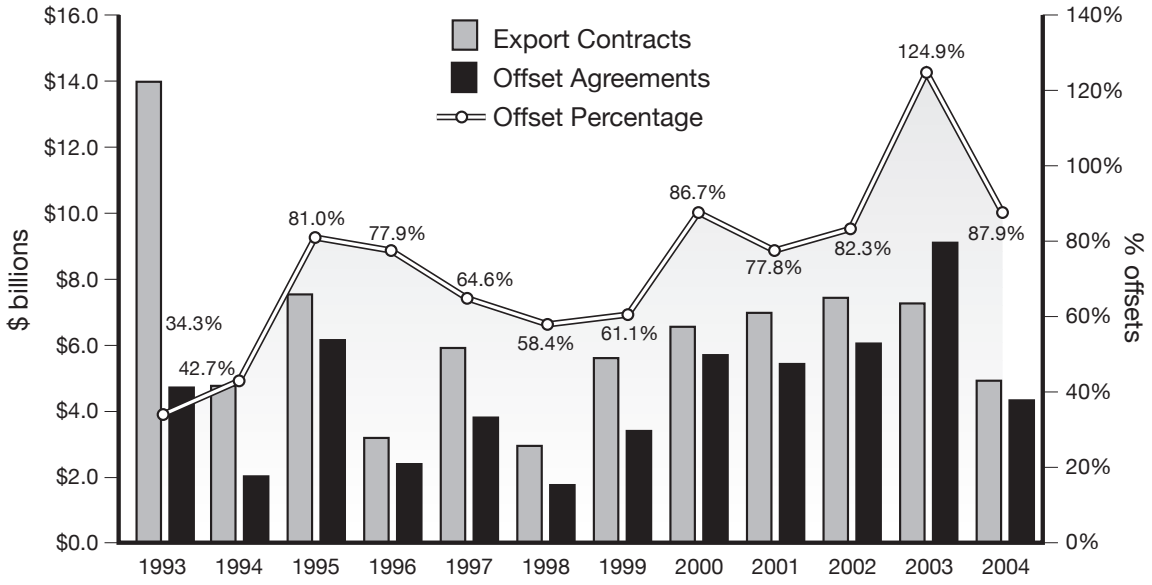
15 BIS's offset database uses SIC codes to define industries; in preparing its value added estimates, the Census Department uses the North American Industrial Classification System (NAICS). The SIC definition of the aerospace industry differs slightly from the NAICS definition, but the results are not significantly altered. [Journal Editor's note: In the original there is an error of two #15 Footnotes.]

16 This calculation is based on the supposition that this value represents 100 percent U.S. content in all exports, which is not necessarily an accurate assumption.

percent of the total value of the related export contracts during the entire twelve-year period. The average term for completing the offset agreements with specific transactions was 79 months, or just over six and one-half years. Sales of aerospace defense systems (i.e., aircraft, engines, and missiles) made up 84 percent of all export contracts, totaling $64.8 billion.

The data for defense export contracts and related offset agreements (including offset percentages) are presented in Chart 4-1. The value of the offset agreements as a percentage of the value of defense export contracts increased an average of 2.6 percentage points per year over the twelve-year reporting period. In 2003, offset agreements as a percentage of export contracts (by value) reached the highest point during the twelve-year period: 124.9 percent; 2004 ranked second highest with offset agreements totaling 87.9 percent of the export contracts. [19] The lowest percentage was recorded in 1993 at 34.3 percent of the value.[20]

Chart 4-1. Export Contracts and Offset Agreements 1993-2004



Source: BIS Offsets Database

Concentration of Offset Activity

The data reported by U.S. firms confirm that a small number of companies, countries, and weapon systems dominated offset agreements between 1993 and 2004. The top five U.S. exporters (of 42 companies reporting data on offsets over the 12 year period, fifteen of which reported offsets in 2004) accounted for 80.3 percent of the value of defense export contracts and 82.1 percent of the value of offset agreements. This market concentration reflects industry consolidation, the high costs of developing and manufacturing defense systems, and the small number of firms that have the

19 One large weapon system export in 2003 with an offset percentage of more than 170 percent skewed the data for the year. Without this export and its related offset agreement, the average offset percentage for 2003 would fall to 81.3 percent (from 124.9 percent with the sale). This export also affected the average offset percentage for the entire period. With this sale and offset, the average offset percentage for 1993-2004 is 71.4 percent; without it, the percentage is 66.6 percent.

20 Much like the outlier from 2003 (above footnote), a similar occurrence took place in 1993 when two large exports with low offset percentages skewed the average offset percentage downward.

financial and productive resources to produce and export them. Each prime contractor coordinated the activities of hundreds, if not thousands, of work of thousands of employees.

Similarly, offsets and related defense system exports appear to be concentrated among a few purchaser governments. Table 4-1 lists the top 25 governments and their total export contract and offset agreement values for 1993-1994.

Table 4-1. Top 25 Governments by Export Contracts (Total, 1993-2004)

Country	Number of Agreements	Export Contracts	Offset Agreements
United Kingdom	41	$11,888,701,286	$10,054,332,643
Taiwan	39	$10,844,770,700	$2,171,542,030
South Korea	58	$8,279,008,808	$5,126,339,429
Greece	48	$6,307,742,343	$7,154,272,271
Canada	25	$4,421,962,694	$4,282,932,872
Israel	46	$4,239,230,606	$2,061,076,627
Saudi Arabia	W	$4,091,600,000	$1,427,400,000
Poland	W	$3,500,000,000	$6,028,000,000
Australia	16	$3,497,662,000	$1,602,085,000
Turkey	17	$2,693,543,000	$1,253,850,000
Italy	9	$2,680,257,000	$2,515,257,000
Switzerland	9	$2,469,212,040	$1,938,412,040
Netherlands	41	$1,925,703,657	$2,298,263,657
Spain	25	$1,848,492,588	$1,636,313,004
Norway	28	$1,237,901,824	$1,296,801,824
NATO	W	$989,749,000	$552,000,000
France	4	$785,200,000	$664,200,000
Malaysia	4	$759,100,000	$283,500,000
Denmark	32	$755,719,000	$755,729,000
Kuwait	9	$570,353,822	$179,237,066
Thailand	6	$539,729,463	$143,696,539
EPG	W	$539,500,000	$150,200,000
Portugal	W	$442,061,000	$123,393,000
United Arab Emirates	6	$398,900,000	$223,900,000
Czech Republic	W	$312,600,000	$62,500,000
Total	**474**	**$76,018,700,831**	**$53,985,234,002**
All Countries	**513**	**$77,208,609,509**	**$55,118,532,679**

Source: BIS Offsets Database
W = Withheld

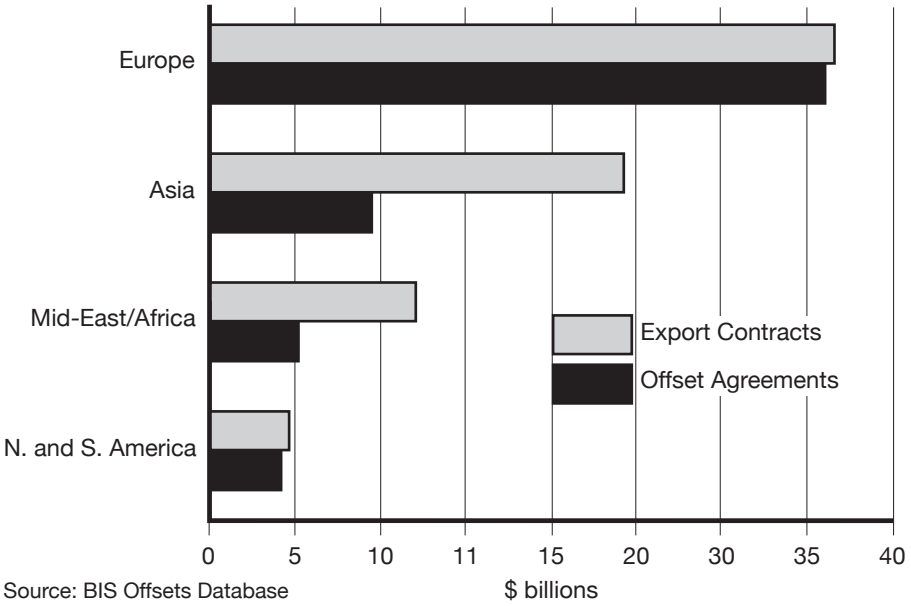
According to data provided by U.S. prime contractors, the top five weapon systems exported were aircraft systems. These top five exports accounted for 41 percent of the value of all export contracts and 43.9 percent of the offset agreements during the reporting period. Nine of the top 10 defense systems were aerospace-related; the top ten accounted for 56.8 percent of the export contracts and 58.8 percent of the offset agreements during the twelve-year period.

Regional Distributions

Chart 4-2 shows offset agreements and export contracts by region for 1993-2004. European countries accounted for the majority of offset activity and weapon system exports, reporting 47.2 percent of the value of U.S. defense export contracts and 65.5 percent of the value of offset agreements.

Asian countries ranked second in both categories, with 17.1 percent of the value of offset agreements and 31.4 percent of related U.S. export contract values.

Chart 4-2. Regional Totals of Export Contracts and Offset Agreements, 1993-2004 (in $ billions)



Source: BIS Offsets Database

In 1999, 2000, and 2003, however, contracts and agreements with the Middle East and Africa significantly increased. In 2003, the Middle East/Africa share of offsets and sales was greater than Asia's: the region accounted for 20 percent of weapon systems exports and 8.5 percent of the value of new offset agreements. In contrast, Asia made up just 6.9 percent of the value of defense exports and 2 percent of the value of new offset agreements. In 2004, the Middle East/Africa had 6 percent of weapon system exports and 3.8 percent of the value of new offset agreements. Asia, on the other hand, had 5.6 percent of weapon system exports for that year, and 2.7 percent of the new offset agreements.

Participating countries in the western hemisphere have consistently played the smallest role, signing only 27 contracts in the twelve-year reporting period. In sum, North and South America have contributed 11 percent of weapon system exports, at a value of $4.5 billion, and 22.9 percent of the offset agreements, at a value of $4.3 billion, between 1993 and 2004.

Europe vs. The Rest of World

Europe alone accounted for roughly 65 percent of total offset agreements (by value), but less than half (47.2 percent) of the value of U.S. defense export contracts. During 1993-2004, U.S. firms reported entering into 273 offset agreements with European countries with a total value of $36.1 billion. These offset agreements ranged from less than $2 million to more than $6 billion in offset demands, and averaged $132.2 million per agreement. The average offset agreement with a European country had a term of just under 84 months, with the longest at 180 months.

Many European governments require a minimum of 100 percent offsets on purchases of foreign defense systems. Of the 273 offset agreements with Europe during the twelve-year period, 175 (64.1 percent) had offset percentages of 100 percent. Another 24 agreements specified offset percentages of greater than 100 percent, including two for which the offset percentage was at least 200 percent. In sum, 72.9 percent (by number) of offset agreements with Europe featured offset percentages of 100 percent or more during the period of 1993-2004.

Although Europe still accounts for the preponderance of offset agreements by value, non-European countries' offset requirement percentages are increasing significantly. For the period of 1993-2000, the average offset requirement for non-European countries totaled only 32.5 percent; for the period of 2001-2004, however, the average offset requirement was 72.8 percent. For 2004 alone, offsets totaled 93.2 percent of the value of U.S. weapon exports to non-European countries.

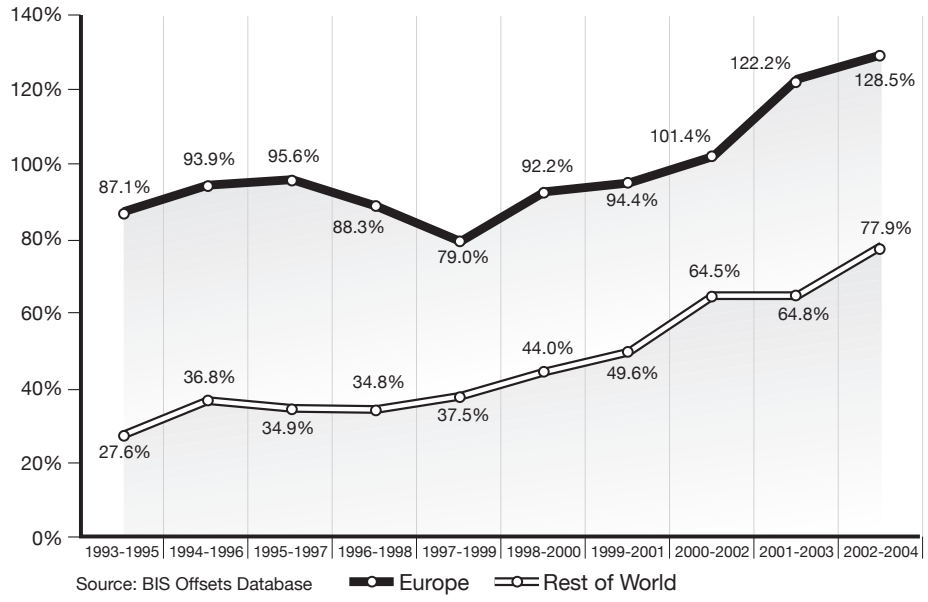
Middle Eastern countries, as well as many countries in Asia and in the western hemisphere, generally demand lower offset levels than European countries. Of the 240 offset agreements with non-European countries, 165 (68.8 percent) had offset percentages of 50 percent or less. Only 75 of the offset agreements (31.3 percent) had percentages of more than 50 percent, and 10 of these had offset requirements in excess of 100 percent.

The data show that over the twelve-year period, countries with developed, technically advanced economies typically have demanded higher levels of offsets than other countries. As more economies and their military programs advance technically, higher levels of offset requirements are likely to continue. More advanced economies are better able to absorb both direct and indirect offsets of all types. Their infrastructures and trained work forces are better developed, and are more likely, compared to other countries, to have in place a variety of defense and commercial industries among which to distribute offset transactions.

Are Offset Demands Increasing?

The data show not only that offset demands are increasing over time, but also that more countries outside Europe are demanding these higher offset percentages. Chart 4-3 shows that, although historically lower than European demands, offset requirements outside Europe are rising. Two-thirds of the non-European offset agreements valued at 100 percent or more of the export contract value have occurred since 1998; these 36 agreements with offset requirements of 100 percent or more, 14 were with Canada and another four were with Turkey. Moreover, in the last three years, countries entering into offset agreements with U.S. firms for the first time have demanded 100 percent or more, emulating their European counterparts.

Chart 4-3. Percent Offsets for Europe vs. Rest of the World (Weighted Moving Average, 1993-2004)



In the last decade, shrinking worldwide defense expenditures and the overcrowding in the defense supplier sector have forced defense industries in many nations to consolidate. As sales opportunities narrowed, competition for such sales and related offsets became more intense. Higher-than-normal overhead related to low levels of capacity utilization in defense industries coupled with competitive pressures on prices also have squeezed corporate profits.

At the same time, foreign purchasing governments are under pressure to sustain their indigenous defense companies or to create new ones (defense and commercial) and, accordingly, are demanding more offsets. Significant, but decreasing, public outlays for foreign-made weapon systems become even more controversial, leading to higher offset demands to deflect political pressure and increase domestic economic development. In a growing number of cases, defense purchases are being driven by the competitiveness of the offset package offered rather than the quality and price of the weapon system purchased.

Report of the Interagency Team on Limiting the Adverse Effects of Offsets in Defense Procurement

In December 2003, President bush signed into law a reauthorization of, and amendments to, the *Defense Production Act of 1950* (DPA). Section 7(c) of P.L. 108-195 amended Section 123(c) of the DPA by recommending that the President designate a chairman of an interagency team to consult with foreign nations on limiting the adverse effects of offsets in defense procurement without damaging the economy or the defense industrial base of the United States, or United States defense production or defense preparedness. The statute provides that the Interagency Team be comprised of the Secretaries of Commerce, Defense, Labor, and State, and the United States Trade Representative. A staff level Interagency Working Group was also established.

The law provides for the interagency team to send an annual report to Congress describing the results of offset consultations. The report is to be included as part of the annual assessment report to Congress on offsets in defense trade that is prepared by the U.S. Department of commerce's Bureau of Industry and Security.

Domestic Consultations

The Interagency Team and Working Group, chaired by the Department of Defense, accomplished a number of important milestones during 2005. The first was identifying and meeting with domestic entities affected by offsets: U.S. defense prime contractors, subcontractors and suppliers to the prime contractors, labor representatives and industry advisors from the United States Trade Representative and Department of Commerce administered International Trade Advisory Committees. The organizations that participated in the domestic consultations included the Defense Industry Offset Association, National Defense Industrial Association, Aerospace Industries Association, American Shipbuilding Association, U.S. business and Industrial Council, AFL-CIO, International Association of Machinists and Aerospace Workers and the United Automobile, Aerospace and Agricultural Implement Workers of America.

The meetings were designed to allow the various domestic entities to inform the interagency team members of their views regarding offsets in defense trade and to make suggestions on what specific issues should be raised when consulting with U.S. trading partners. In many cases the responses by the various groups were in direct conflict with each other. The following are representative of the comments made by the domestic entities. They do not necessarily represent the view the interagency team. The interagency team will release it findings in its final report.

1. Greater than 90 percent of countries require mandatory offsets or industrial participation as part of international defense purchases.
2. Offsets are a persistent and growing problem.

3. Generally, the prime contractor reports all transactions undertaken to meet offset requirements to the foreign government. This accounts for 70 to 100 percent of the offsets reported, although the amount directly fulfilled by the prime contractor varies significantly. The remaining portion (if any) of the offset is reported and fulfilled by:
   - U.S. defense subcontractors
   - Foreign defense subcontractors
   - U.S. non-defense subcontractors
   - Foreign non-defense subcontractors
4. Adverse effects of offsets include:
   - Undercut domestic subcontractors and suppliers, and domestic industrial base, through loss of sales and enhancement or creation of foreign competitors;
   - Transfer technology and know-how as well as employee work-years to foreign firms, eroding U.S. industrial competitiveness;
   - Reduce support for U.S. Department of Defense programs and foreign military sales in specific congressional districts, regardless of any net beneficial effect on the defense industrial base;
   - Increase total cost of weapon systems for our foreign/coalition partners;
   - Increase program (sale and offset) risk: mandatory offset performance penalties increase the risk associated with export sales;
   - Foreign governments view offsets as a form of economic development aid to be gained through defense purchases; and
   - Perception of inequity - U.S. firms and the DoD should receive offset credits when buying any European and other foreign defense equipment and parts/components. This is not currently the case.
5. Beneficial effects of offsets include:
   - Compliance with mandatory offset requirements makes it possible for U.S. companies to compete for foreign defense contracts;
   - Provide a vehicle for opening foreign defense markets for the introduction of U.S. goods and services;
   - Keep U.S. production lines open for certain defense systems not being procured or procured in uneconomic quantities by the DoD;
   - May reduce weapon system unit costs for all purchasers;
   - Maintain empolyee work-years for defense systems, at the prime and subcontractor level for portions of exports not subject to mandatory offsets; and
   - Promote interoperability wit U.S. and coalition partner forces for those weapon systems using common parts/components and support systems.
6. Certain offset requirements are perceived to be burdensome. Examples include:
   - Offsets with onerous terms and conditions, including large and non-liquidating penalties.
   - Offsets that require the use of directed offshore sources of supply for subcontracting and purchases (direct employee work-year loss).
   - Offsets that are outside the company's core expertise.

- Offsets that require the transfer of technology, know-how and production capability.

7. Do the beneficial effects of offsets outweigh adverse effects?
   - Responses varied depending whether or not a U.S. company, industry or labor force were the target of the offset arrangement.
   - U.S. firms, industries or workers not covered by the offset arrangement usually benefited from the export sale.
8. Should the U.S. government play an active role in helping U.S. firms negotiate offset agreements or ban offsets for specific economic sectors?
   - U.S. government should consider more international cooperative development programs as an incentive to reduce or eliminate offsets.
   - U.S. government should develop an offset policy for purchases of foreign systems or parts/components, to counter foreign offset demands.
   - U.S. government should negotiate enforceable guidelines at the multinational level to control the use and adverse effects of mandatory offsets.
   - U.S. government should regulate the use of offsets; should tighten and eliminate waivers to buy America statutes as a strategy to reduce or eliminate offset demands by our trading partners.
   - U.S. government should provide incentives to foreign companies/countries that do not engage in offsets.
   - U.S. government should not take any action that would unilaterally restrict U.S. companies from participating in offset transactions, as this would restrict business opportunities.
9. Should U.S. commercial trade deficits be addressed in trade agreements, offset agreements or other agreements?
   - No - Restrictions on offsets could harm the U.S. defense industry, which has a defense trade surplus.
   - Yes - Negotiate to either eliminate offsets altogether, or reduce foreign offset requirements to 51 percent - similar to the *Buy American Act* (or eliminate Buy American waivers for countries granted Buy American waivers).
10. What differences do you see between the DoD implementation or restrictions on foreign participation on DoD contracts and foreign countries' offset (sometimes called "industrial participation") requirements/
    - The U.S. Buy American restriction requires that a minimum of 51 percent of the value of the defense product purchased be built or sourced in the U.S. (restriction is waived for most allied nations). Most countries require a 100 percent offset for the value of the purchased system to be fulfilled by direct or indirect offset transactions.
    - The U.S. Buy American restriction is not a contractual requirement with a performance period and penalties for non-performance, as found with offset agreements.
    - The U.S. does not require indirect offsets (mandatory compensation not related to defense system purchased) when procuring foreign weapon systems or parts/ omponents.

Foreign Consultations Selection of Countries for Consultations

For the first round of consultations the Interagency Team selected France, Germany, Italy, and the United Kingdom. This group was selected because these countries sell defense systems in the global market and provide offsets, as well as procure defense systems and demand offsets or industrial participation. For the second round of consultations, the Team initially selected Canada, Greece, the Netherlands, Spain and Sweden. Denmark and Turkey were later added to the list. These seven countries were selected because they primarily procure defense systems from offshore suppliers and require mandatory offsets or industrial participation.

These eleven countries were also selected because their governments require high levels of offsets or industrial compensation when purchasing defense systems and services from U.S. defense contractors. Data collected by the U.S. Department of Commerce for 1993-2004 shows that combined, these countries account for 56 percent of all offset agreements (by value). Ten of the eleven countries selected for consultation are in Europe; Europe accounts for 65.5 percent of total offset agreements (by value).

Development of Consultation Questions

The Interagency Working Group developed a comprehensive set of questions for use during the planned consultations. These questions were designed to stimulate a dialogue wit U.S. foreign counterparts, as well as attempt to find common ground for limiting the adverse effects of offsets through bilateral or multilateral consensus. The questions were based on the research of the Interagency Working Group Members and supplemented with the views and suggestions resulting from the domestic consultations.

Pre-Consultation Meetings in Washington, D.C.

The Interagency Working Group prepared for the foreign consultations by contracting and meeting with embassy representatives from the nine countries. These pre-consultation meetings in Washington, D.C. enabled the local embassy staffs to assist wit in-country preparations for the planned foreign consultations. Embassy staffs also forwarded the U.S. government prepared questions to the proper ministries abroadd for review and action in advance of the Interagency Working Group foreign consultations.

First Round of Consultations with Foreign Nations

The first round of consultations took place in mid-November 2005 with representatives from the governments of France, Germany, Italy, and the United Kingdom. The findings of these consultations are being reviewed and will be included in the next annual report.

Next Steps

The goal of the Interagency team is to complete its foreign consultations and submit a report to the U.S. Department of Commerce for inclusion in their annual assessment of offsets provided to congress in December 2006. At this time, the Interagency team has not determined any findings, drawn any conclusions, nor decided upon any recommendations as a result of this first round of foreign consultations. The second round of consultations is scheduled for early 2006.

Summary

Offset Agreements 1993-2004

During the twelve-year period of 1993-2004, U.S. companies reported entering into 513 offset agreements with 41 countries. Export sales totaled $77.2 billion. Offset agreements related to those export contracts were valued at $55.1 billion, or 71.4 percent of the export contract value, down from

73.8 percent for 1993-2003. Sales of aerospace defense systems (i.e., aircraft, engines, and missiles) were valued at $64.8 billion and accounted for 84 percent of the total export contracts.

During the period of 1993-2004, European countries alone accounted for 65.1 percent of the value of offset agreements, but less than half (42.7 percent) of the value of related export contracts. European offset demands generally increased throughout the period, although the figure for 2004 was the second lowest recorded. Between 1993 and 2003, European offset demands as a percentage of exports increased by 75 percentage points, going from 78.3 percent in 1993 to 153.3 percent in 2003; in 2004, European offset demands averaged 63.9 percent. For 1993-2004, the European offset average was 99.1 percent.

Middle Eastern countries and most countries in Asia generally demand lower offset levels than European countries. Of the 239 offset agreements with non-European countries, 155 (64.9 percent) has offset percentages of 50 percent or less. Only 47 of the 39 offset agreements (19.7 percent) has percentages of more than 50 percent but less than 100 percent. Thirty-seven of the 239 (15.5 percent) has offset requirements of 100 percent or more.

Offset Transactions 2004

Offset transactions reported by U.S. companies reached $4.9 billion in 2004, the highest for the twelve-year period and a 38.4 percent increase over 2003. Indirect transactions, those that are non-defense related, accounted for 46.6 percent of the value of offset transactions, down from 68.6 percent last year. This was the second lowest percentage of indirect offsets for the twelve-year period. At the same time, direct transactions accounted for 53.4 percent of the value of transactions in 2004. This was the second highest level of direct transactions and the second time direct offsets were over 50 percent during the twelve-year period.

Offset Transactions 1993-2004

For 1993-2004, U.S. companies reported 7.396 offset transactions in 44 countries. The actual value of the offset transactions from 1993 to 2004 was $32.6 billion. Indirect offsets accounted for 58.9 percent of the total value of transactions and direct offsets made up 40.4 percent of the value. The remainder was unspecified direct or indirect.

The categories of purchases, subcontracts, and technology transfers accounted for 76.6 percent of the value of offset transaction activity during 1993-2004. These categories have consistently accounted for the majority of offset activity. Purchases accounted for 37 percent of the total value, and subcontracts accounted for 25 percent. The value of technology transfer offset transactions was 14.5 percent of the total value.

The majority of offset transactions fell in the manufacturing sectors, Standard Industrial Classification (SIC) 20-39; manufacturing-related transactions accounted for $26 billion, or 79.7 percent of all transactions. Service-related transactions accounted for $3.6 billion, or 11.1 percent of the total. Financial, insurance, and real estate industries totaled $1.5 billion, approximately 4.5 percent of transactions for 1993-2004.

The Role of Multipliers

Multipliers are incentives used by purchasing countries to stimulate particular types of offset transactions. Prime contractors receive added credit toward their obligation above the actual value of the transaction when multipliers are used. In a small number of cases, a negative multiplier is used to discourage certain types of offsets. In Europe, 85.9 percent of transactions have no multiplier involved for the prime contractor when fulfilling the offset commitment. For North and South America, 84.6 percent of transactions have no multiplier involved; for Asia, the figure is 79.2 percent, and 88.7 percent for the Middle East and Africa.

Some categories of transactions were more likely to garner multipliers:

- 42.5 percent of Overseas Investment transactions
- 39.7 percent of Training transactions
- 26.6 percent of Technology Transfer Transactions had positive multipliers.

However, just 8.1 percent of subcontracts and 8.4 percent of purchases, the two largest categories, received multipliers. These two categories together accounted for 72 percent of the 7,396 transactions reported over the twelve-year period.

Findings

In 2004, U.S. defense weapons exports were at their lowest level since 1998, totaling $4.9 billion. In conjunction with these exports, offset agreements totaled $4.3 billion in 2004. The average of offset percentage for 2004 was 87.9 percent, down from 124.9 percent in 2003.[6] This is a sharp decrease in value, but still the second highest recorded level of offset percentage in the 1993-2004 reporting period.

Offset transactions have reached their highest point since 1993. Transactions normally lag a few years behind the offset agreements that they fulfill. In 2004, transactions totaled $4.9 billion, an increase of $1.3 billion (38.4 percent) from 2003.[6] This is due to the high level of export sales and related offset agreements since 2000.

Multipliers continue to b applied to only a small number of offset transactions. The average multiplier for the twelve-year period is 1.185. In 2004, the multiplier was 1.087. This 2004 multiplier means that, as a whole, the total credit value of the transaction is 8.7 percent more than the actual value. Therefore, the total actual value of transactions for 1993-2004 is $32,570 million, but the credit value is $38,595 million.

In 2004, direct transactions accounted for 53.4 percent, or $2.6 billion, of the value of transactions for that year. This was the second highest level of direct transactions and the second time direct offsets were over 50 percent during the twelve-year period from 1993-2004. Indirect transactions, in contrast, accounted for 46.6 percent, or $2.3 billion, of the value of offset transactions, down from 68.6 percent last year. This was the second lowest percentage of indirect offsets for the twelve-year period. The remaining 0.8 percent of the value was unspecified direct or indirect. From 1993-2004, direct offset transactions (related to weapon systems sold) accounted for just 40.4 percent, or $13.2 billion, of the value of all transactions. Indirect offset transactions wee valued at 58.9 percent, or $19.2 billion, of the value of all transactions for the twelve-year period.

BIS has several ways of classifying offset data for analysis. One way is categorizing by global region, and then distinguishing by country. During 1993-2004, European countries and U.S. firms entered into the most number of offset agreements, had the highest total value of agreements, and typically demanded the highest offset percentages. U.S. firms reported 273 new offset agreements with European countries from 1993-2004, a total value of $36.1 billion. In 2004, the European average offset percentage dropped to the lowest point in 10 years at 63.9 percent. This, however, has had minimal effect on the overall average level of offsets demanded. For the twelve-year period, the European average was 99.1 percent, down just 2.1 percentage points from the previous reporting

6 One large eapon system export in 2003 with an offset percentage of more than 170 percent skewed the data for that year. Without this export and its related offset agreements, the average offset percentage for 2003 would fall from 124.9 percent to 81.3 percent. The 2004 level of 87.9 percent would then be the highest percentage on record this export also affected the average offset percentage for the entire period. With this sale and offset, the average offset percentage for 1993-2004 is 71.4 percent; withot it the percentage is 66.6 percent..

period of 1993-2003. 72.9 percent of offset agreements with Europe from 1993-2004 future offset percentages of 100 percent or more.

Not only are offset demands increasing over time, but also more countries outside Europe are participating in he international defense weapons market and demanding higher offset percentages as compensation. Non-European countries entered into 18 defense export contracts, valued at $4.03 billion, in 2004 with related offset agreements totaling $3.8 billion. This is the highest recorded level - 93.2 percent - of offsets in he twelve-year period for non-European countries. In total, non-European countries had 240 agreements from 1993-2004, with export contracts valued at almost $40.8 billion and offset agreements totaling a little more than $19 billion, or 46.6 percent. BIS notes that two-thirds of the non-European offset agreements valued at 100 percent or more of the export contract value have occurred since 1998.

BIS has developed an estimate of employment impacts caused by offsets by using U.S. aerospace-related employment of value added data collected by the U.S. Department of Commerce, bureau of the Census.

U.S. prime contractors reported about $7.3 billion in defense export contracts with offset agreements for 2003. According to the Census Bureau's Annual Survey of Manufacturers, the value added per employee for the aerospace product and parts manufacturing industry in 2003 was $174,577. Dividing this figure into the 2003 defense export sales total results in a total of 41,776 work-years that were maintained by defense exports associated with offset agreements during 2003.[7]

For 2003, the $7.3 billion in defense export contract had a related $9.1 billion in offset commitments. It takes on average almost seven years of offset transactions to fulfill an offset agreement, but in order to more accurately assess the impact of offset transactions on work years, BIS compared the export contract to the prime contractor's offset obligation contractually committed at the time of the sale.

Subcontracting, purchasing, co-production, and licensing offset transactions are most likely to shift production and sales from U.S. suppliers to overseas firms. Other categories of offset transactions (technology transfer, training, overseas investment, and marketing), in the short or long run, can shift sales from U.S. suppliers as well; however, their impact is more difficult to calculate. Therefore, BIS bases its estimate of employment impacts only on subcontracting, purchasing, co-production, and licensing offset transactions.

These conservative calculations are based on the assumption that the offset obligations entered into in 2003 are made up of nearly the same proportion of offset transaction categories as past offset obligations. Those categories which can be most directly related to employment - subcontracting, purchasing, co-production, and licensing - accounted for approximately 72 percent of the total value of offset obligations in 2003. Applying the same value added figure used above ($174,477) leads to the loss of 37,450 work-years associated with the offset agreements entered into in 2003.

Based on these calculations, it appears that 2003 defense export sales of $7.3 billion had a slight net positive effect on employment in the defense sector during that year (4,326 work years), although the net positive effect was diminished by the offset agreements. This compares to 2002 defense export sales of $7.4 billion and related work-years of 47,122, offsets of $6.1 billion and the loss of 25,450 work-years, for a net gain of 21,672 work-years. It should be noted that the 2003 analysis does not include the potential impacts of an additional $809.9 million of technology transfer, training, and overseas investment transactions.

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7 This calculation is based on the supposition that this value represents 100 percent U.S. content in all exports, which is not necessarily an accurate assumption.